

BOOK REVIEWS

PATTERNS OF CHANGE IN TROPICAL PLANTS by G. P. Chapman, with pp. 112. and illustrations. London: University of London Press Ltd., 1970.

This little book makes interesting reading. It is a good introduction to the study of the variation and genetics of plants and is illustrated by examples mostly from tropical and subtropical regions. The examples are mostly cultivated species and the origin of some of them, for example that of the tomato, banana and maize, is discussed at length.

The author in writing this book had undoubtedly in mind a saying of C. G. G. J. van Steenis that "botanical teaching based on the temperate flora must necessarily be ill-balanced and inadequate" (p. 2) and was undoubtedly under the impression of what H. G. Baker describes in the Foreword (p. 9) as "a growing awareness that an understanding of tropical biology is essential before we can comprehend the general principles of evolution and ecology in the world as a whole". In taking plants from the warmer parts of the world into consideration this book is a valuable contribution to a balanced and adequate study of plant variation and plant genetics.

Many of the examples used for illustration are also well known in Southern Africa and in the Southern Hemisphere. This is an additional reason why this little book should appeal to plant biologists in South Africa.

P. G. JORDAAN

PHYSIOLOGICAL PLANT PATHOLOGY, Vol. 1 no. 1, January, 1971. Edited by T. F. Preece and B. J. Deverall, with pp. i + 83. London and New York: Academic Press. \$19.50.

This is the first international phytopathological journal to specialize in a restricted field of this science. Papers will be considered for publication only if they have a bearing on physiological, biochemical, ultrastructural, genetic or molecular aspects of host-parasite interactions, on environmental effects on such relationships and on modifications of host metabolism induced by pathogens. It is thus obvious that the journal is intended mainly for research workers but will also be of great help to teachers in the field.

The first number of Volume I has ensured that this publication will be enthusiastically received by those interested in the host-parasite interrelationship. A pleasing feature is an excellent review by C. H. Beckman on the plasticizing of plant cell walls and tylose formation. The remaining research papers, some by well known authorities, include studies on the hypersensitive reaction induced in tobacco by noncompatible phytopathogenic bacteria, the production and breakdown of phytoalexins, pectic enzymes, virus multiplication, and the effect of light intensity on the infection of wheat by *Septoria tritici*, while J. P. Blakeman and A. K. Fraser reported that antagonistic bacteria inhibit the growth of *Botrytis cinerea* on the surface of chrysanthemum leaves.

In common with other publications of Academic Press, the lay-out of *Physiological Plant Pathology* is of a high standard. A few minor discrepancies were noted in the form in which references were listed, but these can easily be eliminated in future issues.

M. J. HATTINGH

DAS SUKKULENTEN LEXIKON. Kurze Beschreibung, Herkunftsangaben und Synonyme der sukkulenten Pflanzen mit Ausnahme der Cactaceae by Hermann Jacobsen, with pp. 589 and 1063 illustrations in black and white on 200 plates. Jena: Fischer Verl., 1970. M48.00.

As the title suggests the book deals with this vast subject in a very condensed, encyclopaedic way. It deals with all the known succulents with the exception of the Cactaceae. The book is divided into 2 sections, part 2 contains all the Mesembryanthemaceae, part 1 all the other succulents.

For easy and quick reference the genera are in alphabetical order. For the larger genera like *Adromischus*, *Aeonium*, *Agave*, *Aloe*, *Anacampseros*, *Caralluma*, *Ceropegia*, *Cotyledon*, *Crassula*, *Dudleya*, *Echeveria*, *Euphorbia*, *Haworthia*, *Huernia*, *Kalanchoe*, *Monanthes*,

Pachyphytum, *Pachypodium*, *Rhodiola*, *Sedum*, *Sempervivum* and *Stapelia* the division into sub-genera and sections has been given. In addition there is a key to the sections of the genus *Haworthia* and keys to the species of the genera *Alluaudia*, *Alluaudiopsis*, *Ceropegia* and the succulent species of *Peperomia*. To each sub-section of a genus the respective species are listed. With each species of the larger genera goes the number of the particular sub-section or paragraph, into which the genus has been sub-divided.

The descriptions of the species are very abbreviated in order to get as much information as possible into the limited space of this encyclopaedia. A loose card of abbreviations which of course can be carried forward from page to page makes the reading of the text very easy.

Part 2 of the book gives a shortened account of the taxonomy of the Mesembryanthemaceae by G. Schwantes in the revised form of G. Schwantes, H. Straka and H. D. Ihlenfeldt. It is also provided with the revised key to the genera of the Mesembryanthemaceae by Dr. L. Bolus.

For the genera *Argyroderma*, *Conophytum*, *Gibbaeum*, *Lampranthus*, *Lithops*, *Monilaria*, *Ruschia*, *Sphalmanthus*, and *Stomatium* the sub-division into sub-genera and sections has been given. In addition there are keys to the sections of the genera *Cephalophyllum*, *Cheiridopsis*, *Drosanthemum*, *Trichodiadema* and keys to the species of the genera *Aloinopsis*, *Astridia*, *Dinteranthus*, *Dorotheanthus*, *Dracophilus*, *Herrea*, *Juttadinteria*, *Khadia*, *Lithops*, *Machairophylllum*, *Meyerophytum*, *Namibia*, *Nananthus*, *Ophthalmophyllum*, *Rabiea*, *Rhinephyllum*, *Schwantesia* and *Vanheerdtia*. The description of the species has been carried out as in part 1.

For recent descriptions of new species or new combinations and a few other plants not mentioned in the general text there are two appendices. Two extensive lists of synonyms separate for the Mesembryanthemaceae and the other succulents add even more to the value of this book.

For the reader with more detailed and deeper interests there is a long list of literature used by the author when compiling this book. Lists of old and new names for the areas where succulents occur, of societies for the study of succulents, plus a list of families which contain genera with succulent species add to the amount of information.

Last but not least, tribute should be paid to the many good photographs which will prove of greatest value for the identification of plants. Most valuable are the drawings to the sections in the *Euphorbias*, *Haworthias*, *Monadeniums* and *Gibbaeums*, and the photographs to the *Lithops* system.

Perhaps more emphasis should be placed on the importance of the capsules in the Mesembryanthemaceae. Illustrations of a greater number of capsules could greatly improve this part of the book. It seems that this aspect has been a little underestimated by the author. If one compares "Das Sukkulanten Lexikon" with the botanical information given in the old 3 volume "handbook", the improvements are considerable, especially in part 2. We nevertheless do not share the optimistic outlook of the publishers that with this book in hand, the correct identification of any succulent is possible without any problems. Further, we do not agree that *Testudinaria* is the current valid name for the genus *Dioscorea*. But this is of minor importance.

The volume is moderately priced.

We have to congratulate Dr. Jacobsen on this handsome work which provides the professional as well as the layman with such very able and comprehensive information on succulents.

WALTER WISURA